

LATERALLY DIFFUSED METAL OXIDE SEMICONDUCTOR DEVICE AND METHOD OF FORMING THE SAME

ABSTRACT OF THE DISCLOSURE

A transistor advantageously embodied in a laterally diffused metal oxide semiconductor device having a gate located over a channel region recessed into a semiconductor substrate and a method of forming the same. In one embodiment, the laterally diffused metal oxide semiconductor device includes a source/drain having a lightly doped region located adjacent the channel region and a heavily doped region located adjacent the lightly doped region. The laterally diffused metal oxide semiconductor device further includes an oppositely doped well located under and within the channel region, and a doped region, located between the heavily doped region and the oppositely doped well, having a doping concentration profile less than a doping concentration profile of the heavily doped region.